RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

REPORT OF WELL ABANDONMENT

Bakersfield, California

June 1, 1988

Kwang U. Park
ARCO OIL & GAS COMPANY
P. O. Box 147
Bakersfield, CA 93302

Your report of abandonment of well "Rosenberger" 1 (Name and number),
A.P.I. No. 029-81541, Section 5, T. 26S, R. 25E, M.D. B. & M.,
--- field, Kern County,
dated 02-10-88, received 03-04-88, has been examined in conjunction with records filed in this office, and we have determined that all of the requirements of this Division have been fulfilled.

DC:dp
Blanket Bond

M. G. MEFFERD
State Oil and Gas Supervisor

By E. A. Welge

E. A. WELGE, Deputy Supervisor

OG159 (11/82/GSR1/8M)

API NO. 029-81541

Intention / Type	Drill Ice		Abandon/Dry									
P-Report No.	481-6062		488-62									
Proposed Pool	OD		—									
Completed Pool	—		—									
Status / Date	DH/12-29-87		Abd DH/12-9-87									
	Rec'd	Hold	Rec'd	Hold	Rec'd	Hold	Rec'd	Hold	Rec'd	Hold	Rec'd	Hold
History	✓		✓									
Summary	✓		✓									
Signature	✓		✓									
Core												
SWS	✓											
Logs: E-Log 2"+5"	✓											
2"+5" FDC/CNL/GR	✓											
CBL												
cont. dip	✓											
comp. dip	✓											
2"+5" BHC	✓											
Direct. Survey												
T-Report	✓		✓									
Environ. Inspect.			✓									
Location	✓											
Elevation	✓											
Map No. Date Entered Initials			W4-2 6-1-88 DD									
Drill Card												
Init. Prod. (Date)	—		—									
6 mos.Prod. (Date)	—		—									
Hold For Records (Date & Initials)	mm 4-12-88		4-12-88									
Records Approved (Date & Initials)			5-19-88 RR									
Bond Eligible For Release (Date)												
E.D.P. Clerk												
Confid. Clerk												
Form 121			6-1-88									
Bond No. Date	BQ											
Form 150 (Release)												
Form 159 (Final Letter)			6-1-88									

Remarks: COLE - 88

Storage: purged to confidential

other logs
2"+5" microlog
s

(2"+5") DIL, FDC/CNL/GR
BHC, microlog (2"+5")
cont. dip
Biostrat Analysis

Final Letter Approval: DC 5/27/88

029-81541

ARCO Oil and Gas Company

Daily Well History – Final Report

Instructions: Prepare and submit the **"Final Report"** on the first Wednesday after allowable has been assigned or well is Plugged, Abandoned, or Sold. **"Final Report"** should be submitted also when operations are suspended for an indefinite or appreciable length of time. On workovers when an official test is not required upon completion, report completion and representative test data in blocks provided. The **"Final Report"** form may be used for reporting the entire operation if space is available.

			Accounting cost center code
District: WESTERN	County or Parish: KERN	State: CA	
Field: WILDCAT	Lease or Unit: ROSENBERGER		Well no.: #1
Auth. or W.O. no.: AFE: R46656 API: #02981541	Title: DRILL		

600' S and 500 'E of NW Corner, Sec 5, T26S, R25E Elevation 295' MBD&M, Kern County

Operator: ARCO Oil and Gas Company	A.R.Co. W.I.: 1.000.000	Total number of wells (active or inactive) on this cost center prior to plugging and abandonment of this well	
Spudded or W.O. begun: SPUDDED	Date: 11-27-87	Hour: 2000	Prior status if a W.O.

Date and depth as of 8:00 a.m.

Complete record for each day reported

All measurements RKB = 11' Ground Elevation: 295'

Total Depth: 5,000' PBD: Surface

Plug:

(1) 3,850'-3,470' cement plug (140 sx)
(2) 2,070'-1,832' cement plug (82 sx)
(3) 760'- 612' cement plug (64 sx)
(4) 60'- 8' cement plug (25 sx)

Casing Detail Prior to P&A

Casing Size	Top of Casing	Shoe Depth	Weight	Grade	Hole Size	SX Cement
13-3/8"	8'	30'		Conductor		
9-5/8"	8'	704'	36#	K-55	12-1/4	(402)

E-Logs (1) DIL/BHC/GR/CAL: 4576'-5000'
(2) LDT/CNL/GR/CAL: 4576'-5000'
(3) Dipmeter

SWC - Shot 30 (recovered 29)

Old TD: N/A	New TD: 5,000'	PB Depth: Surface
Released rig	Date	Kind of rig: Rotary
Classifications (oil, gas, etc.): N/A		Type completion (single, dual, etc.): N/A
Producing method: N/A		Official reservoir name(s): N/A

Potential test data

Well no.	Date	Reservoir	Producing Interval	Oil or gas	Test time	Production	
						Oil on test	Gas per day

Pump size, SPM X length	Choke size	T.P.	C.P.	Water %	GOR	Gravity	Allowable	Effective date

ARCO Oil and Gas Company	1,000,000	Total number of wells (active or inactive) on this cost center prior to plugging and abandonment of this well	
Spudded or W.O. begun	Date	Hour	Prior status if a W.O.
SPUDDED	11-27-87	2000	

Date and depth as of 8:00 a.m.

Complete record for each day reported

All measurements RKB = 11' Ground Elevation: 295'

Total Depth: 5,000' PBD: Surface

Plug:

(1) 3,850'-3,470' cement plug (140 sx)
(2) 2,070'-1,832' cement plug (82 sx)
(3) 760'- 612' cement plug (64 sx)
(4) 60'- 8' cement plug (25 sx)

Casing Detail Prior to P&A

Casing Size	Top of Casing	Shoe Depth	Weight	Grade	Hole Size	SX Cement
13-3/8"	8'	30'		Conductor		
9-5/8"	8'	704'	36#	K-55	12-1/4	(402)

E-Logs (1) DIL/BHC/GR/CAL: 4576'-5000'
(2) LDT/CNL/GR/CAL: 4576'-5000'
(3) Dipmeter

SWC - Shot 30 (recovered 29)

Old TD	New TD	PB Depth
N/A	5,000'	Surface
Released rig	**Date**	**Kind of rig**
		Rotary

Classifications (oil, gas, etc.)	Type completion (single, dual, etc.)
N/A	N/A
Producing method	**Official reservoir name(s)**
N/A	N/A

Potential test data

Well no.	Date	Reservoir	Producing Interval	Oil or gas	Test time	Production	
						Oil on test	Gas per day

Pump size, SPM X length	Choke size	T.P.	C.P.	Water %	GOR	Gravity corrected	Allowable	Effective date

The above is correct

Signature	Date	Title
R Sandy Thomas	2/10/88	District Drilling Engineer

For form preparation and distribution, see Procedures Manual, Section 10, Drilling, Pages 86 and 87.

Kwang U. Park 2/10/88
Kwang U. Park
District Drilling Superintendent

ARCO Oil & Gas Co.
4550 Calif. Ave.
Bakersfield, CA 93309
(805) 321-4059

Number all daily well history forms consecutively as they are prepared for each well. Page no. 3

ARCO Oil and Gas Company ◆ **Well History - Initial Report - Daily**

Instructions: Prepare and submit the **"Initial Report"** on the first Wednesday after a well is spudded or workover operations are started. Daily work prior to spudding should be summarized on the form giving inclusive dates only.

029-81541

District	County, parish or borough	State
WESTERN	KERN	CA

Field	Lease or Unit	Well no.
WILDCAT	ROSENBERGER	#1

Auth. or W.O. no.	Title
AFE: R46656 API: 029-81541	DRILL

600 S and 500 E of the NW Corner, S5/T26S/R25E, ELEVATION: 295', Kern County

Operator	ARCO W.I.
ARCO Oil and Gas Company	1.000.000

Spudded or W.O. begun	Date	Hour	Prior status if a W.O.
SPUDDED	11-27-87	2000	

Date and depth as of 8:00 a.m.	Complete record for each day reported
2-1/2	11/30/87 Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656 TD: 2058' (2018') - Drilling (9-5/8" at 704') MUD: 9.2 ppg VIS: 42 MIRU Gary #9. Spud at 2000 hr 11/27/87. Drilled 12-1/4" hole 40'-706'. POOH. Ran 17 jt 9-5/8" 47# and 36# BTC and ST&C casing (shoe at 704', float collar at 626'). Cemented with 402 sx Class "G" with 3% $CaCl_2$ (mixed at 15.8 ppg). Good circulation with cement returns. Bumped plug with 800 psi. Floats held. CIP 1300 hr 11/28/87. WOC. Cut casing. Weld on bradenhead. Tested to 1500 psi. NU and tested BOPE. RIH. Tested casing to 500 psi. Drilled cement and float equipment. Drilled 8-1/2" hole 706'-2058'.
3-1/2	12/1/87 Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656 TD: 3410' (1352') - Drilling (9-5/8" at 704') MUD: 9.6 ppg VIS: 44 Drilled 8-1/2" hole 2058'-3410'.
4-1/2	12/2/87 Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656 TD: 4576' (1166') - Wiper trip (9-5/8" at 704') MUD: 9.5 ppg VIS: 43 Drilled 8-1/2" hole 3410'-4576'.
5-1/2	12/3/87 Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656 TD: 5000' (424') - Logging (9-5/8" at 704') MUD: 9.3 ppg VIS: 38 Drilled 8-1/2" hole 4576'-5000'. Wiper trip. Ran DIL/BHC/GR/CAL and LDT/CNL/GR/CAL 4998'-700'. RIH Dipmeter.

Spudded or W.O. began	Date	Hour	Prior status if a W.O.
SPUDDED	11-27-87	2000	

Date and depth as of 8:00 a.m.	Complete record for each day reported
2-1/2	11/30/87 Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656 TD: 2058' (2018') - Drilling (9-5/8" at 704') MUD: 9.2 ppg VIS: 42 MIRU Gary #9. Spud at 2000 hr 11/27/87. Drilled 12-1/4" hole 40'-706'. POOH. Ran 17 jt 9-5/8" 47# and 36# BTC and ST&C casing (shoe at 704', float collar at 626'). Cemented with 402 sx Class "G" with 3% $CaCl_2$ (mixed at 15.8 ppg). Good circulation with cement returns. Bumped plug with 800 psi. Floats held. CIP 1300 hr 11/28/87. WOC. Cut casing. Weld on bradenhead. Tested to 1500 psi. NU and tested BOPE. RIH. Tested casing to 500 psi. Drilled cement and float equipment. Drilled 8-1/2" hole 706'-2058'.
3-1/2	12/1/87 Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656 TD: 3410' (1352') - Drilling (9-5/8" at 704') MUD: 9.6 ppg VIS: 44 Drilled 8-1/2" hole 2058'-3410'.
4-1/2	12/2/87 Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656 TD: 4576' (1166') - Wiper trip (9-5/8" at 704') MUD: 9.5 ppg VIS: 43 Drilled 8-1/2" hole 3410'-4576'.
5-1/2	12/3/87 Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656 TD: 5000' (424') - Logging (9-5/8" at 704') MUD: 9.3 ppg VIS: 38 Drilled 8-1/2" hole 4576'-5000'. Wiper trip. Ran DIL/BHC/GR/CAL and LDT/CNL/GR/CAL 4998'-700'. RIH Dipmeter.

The above is correct

Signature	Date	Title
[signature]	2/10/88	DISTRICT DRILLING ENGINEER

For form preparation and distribution, see Procedures Manual, Section 10, Drilling, Pages 86 and 87.

Number all daily well history forms consecutively as they are prepared for each well. Page no. 1

AR3B-459-1-D

ARCO Oil and Gas Company **Daily Well History—Interim**

Instructions: This form is used during drilling or workover operations. If testing, coring, or perforating, show formation name in describing work performed. Number all drill stem tests sequentially. Attach description of all cores. Work performed by Producing Section will be reported on "**Interim**" sheets until final completion. Report official or representative test on "**Final**" form. 1) Submit "**Interim**" sheets when filled out but not less frequently than every 30 days, or (2) on Wednesday of the week in which oil string is set. Submit weekly for workovers and following setting of oil string until completion.

029-81541

District	County or Parish	State	Well no.
WESTERN	KERN	CA	#1
Field	**Lease or Unit**		
WILDCAT	ROSENBERGER		

Date and depth as of 8:00 a.m.	Complete record for each day while drilling or workover in progress
6-1/2	12/4/87 Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656 TD: 5000' (0') - Run VSP log (9-5/8" at 704') MUD: 9.4 ppg VIS: 38 Run HRDT 5000'-704'. RIH CBU at 2,500. RIH to 5000'. Circ for logs. Run RFT. Stuck at 2436'. Pull 6000# to pull free. (Cancelled 2nd run). Run SWC - shot 30/recovered 29. RIH to 2500'. CBU. RIH to 5,000'. Circ. for logs. POOH. RIH with VSP.
9-1/2	12/7/87 Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656 TD: 5000' (0') - WOC Plug #1 (9-5/8" at 704') MUD: 9.5 ppg VIS: 41 Ran VSP 4975'-250'. Wiper trip. Ran RFT to 3726'. Tested for 1 hr. POOH. Chamber plugged. Ran RFT to 3726.5'. Obtained successful test. Ran RFT to 3665'. No test. Attempted test at 2324'-plugged. RIH to 3850'. CBU. POOH. RIH OEDP. Plug #1 at 3850' with 161 cu.ft. Class "G" neat (mixed at 15.8 ppg). Estimate TOC 3441'. POOH. WOC.
10-1/4	12/8/87 Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656 TD: 5000' (0') - Rig released (9-5/8" @ 704') MUD: N/A Tagged TOC 3470'. POOH to 2070'. Set plug #2 with 94 cu.ft. Class "G" with 2% $CaCl_2$ (mixed at 15.8 ppg). CIP 0845 hr 12/7/87. Est TOC 1827'. POOH, LD extra drill pipe. RIH. Tagged TOC 1832'. POOH to 760'. Set plug #3 with 62 cu.ft. Class "G" with 2% $CaCl_2$ (mixed at 15.8 ppg). CIP 1302 hr 12/7/87. Est TOC 612'. POOH. LD pipe. Set surface plug 60'-surface with 29 cu.ft. Class "G" with 2% $CaCl_2$. ND BOPE. Released rig 2200 hr 12/7/87.
'11-1/4	12/9/87 Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656 TD: 5000' (PBTD: Surface) - Rig released (9-5/8" @ 704') RDMO. Cut casing 5' below ground level. Welded 1/4" steel plate on 9-5/8" stub.

The above is correct

6-1/2

12/4/87
Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656
TD: 5000' (0') - Run VSP log (9-5/8" at 704')
MUD: 9.4 ppg VIS: 38

Run HRDT 5000'-704'. RIH CBU at 2,500. RIH to 5000'. Circ for logs. Run RFT. Stuck at 2436'. Pull 6000# to pull free. (Cancelled 2nd run). Run SWC - shot 30/recovered 29. RIH to 2500'. CBU. RIH to 5,000'. Circ. for logs. POOH. RIH with VSP.

9-1/2

12/7/87
Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656
TD: 5000' (0') - WOC Plug #1 (9-5/8" at 704')
MUD: 9.5 ppg VIS: 41

Ran VSP 4975'-250'. Wiper trip. Ran RFT to 3726'. Tested for 1 hr. POOH. Chamber plugged. Ran RFT to 3726.5'. Obtained successful test. Ran RFT to 3665'. No test. Attempted test at 2324'-plugged. RIH to 3850'. CBU. POOH. RIH OEDP. Plug #1 at 3850' with 161 cu.ft. Class "G" neat (mixed at 15.8 ppg). Estimate TOC 3441'. POOH. WOC.

10-1/4

12/8/87
Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656
TD: 5000' (0') - Rig released (9-5/8" @ 704')
MUD: N/A

Tagged TOC 3470'. POOH to 2070'. Set plug #2 with 94 cu.ft. Class "G" with 2% $CaCl_2$ (mixed at 15.8 ppg). CIP 0845 hr 12/7/87. Est TOC 1827'. POOH, LD extra drill pipe. RIH. Tagged TOC 1832'. POOH to 760'. Set plug #3 with 62 cu.ft. Class "G" with 2% $CaCl_2$ (mixed at 15.8 ppg). CIP 1302 hr 12/7/87. Est TOC 612'. POOH. LD pipe. Set surface plug 60'-surface with 29 cu.ft. Class "G" with 2% $CaCl_2$. ND BOPE. Released rig 2200 hr 12/7/87.

'11-1/4

12/9/87
Rosenberger #1 (Kern County) - Gary #9 - AFE #R46656
TD: 5000' (PBTD: Surface) - Rig released (9-5/8" @ 704')

RDMO. Cut casing 5' below ground level. Welded 1/4" steel plate on 9-5/8" stub.

The above is correct

Signature	Date	Title
Randy Thomas	2/10/89	DISTRICT DRILLING ENGINEER

For form preparation and distribution see Procedures Manual Section 10, Drilling, Pages 86 and 87

AR3B-459-2-B

Number all daily well history forms consecutively as they are prepared for each well.

Page no. 2

029-81541

ARCO Oil and Gas Company

Well: Rosenberger #1

Field: Wildcat

Sidewall Core Analysis Report

December 10, 1987 File No: 81041

FILE No. 81041
DATE December 10, 1987

PETROLEUM TESTING SERVICE, INC.

COMPANY ARCO Oil and Gas Company
CORE BARREL Schlumberger Sidewall Samples
MUD TYPE Water Base

WELL Rosenberger #1
FIELD Wildcat
COUNTY N/A
STATE N/A

CORE ANALYSIS

DEPTH FEET	HELIUM POROSITY PERCENT	AIR PERMEABILITY md.		O/W RATIO	SATURATION % PORE SPACE OIL	WATER	TOTAL	APPARENT SAND GRAIN DENSITY gm/cc	REC IN.	LITHOLOGY
2324.0	INSUFFICIENT MATERIAL									
2325.0	33.2	481.		0.00	0.0	88.2	88.2	2.68	1.75	Sst; med lt gry, slt-crssd, prly cmtd, mica, no odor, no stn, no fluor
2424.0	32.8	793.		0.00	0.0	91.5	91.5	2.70	1.50	Sst; med gry, slt-crssd, prly-mod cmtd, mica, no odor, no stn, no fluor
2437.0	37.0	350.		0.00	0.0	94.9	94.9	2.73	1.50	Sst; med gry, slt-msd, prly cmtd, mica, no odor, no stn, no fluor
2505.0	40.8	205.		0.00	0.0	92.9	92.9	2.69	1.50	Sst; med gry, slt-vfsd w/ cly incl, prly-mod cmtd, mica, no odor, no stn, no fluor
2948.0	44.0	773.		0.00	0.0	84.5	84.5	2.65	1.50	Sst; olv gry, slt-fsd w/ cl pbls, prly-mod cmtd, mica, no odor, no stn, no fluor
3626.0	35.2	28.		0.00	0.0	92.9	92.9	2.65	1.50	Sst; olv gry, slt-fsd, mod cmtd, mica, shell frags, no odor, no stn, no fluor
3665.0	33.0	68.	*	0.00	0.0	94.5	94.5	2.65	1.50	Sst; olv gry, slt-msd w/ cl pbls, mod cmtd, mica, shell frags, no odor, no stn, no fluor
3725.0	34.4	59.		0.00	0.0	90.2	90.2	2.65	1.50	Sst; olv gry, slt-msd, mod cmtd, mica, no odor, no stn, no fluor
3727.0	35.8	48.		0.00	0.0	93.1	93.1	2.69	1.50	Sst; olv gry, cl-fsd, mod cmtd, mica, no odor, no stn, no fluor
4326.0	34.2	4.3		0.00	0.0	91.4	91.4	2.61	1.25	Sltst; olv gry, cl-fsd, mod cmtd, mica, shell frags, no odor, no stn, no fluor
4575.0	35.4	433.		0.00	0.0	80.0	80.0	2.67	1.50	Sst; med lt gry, slt-crssd, prly cmtd, mica, no odor, no stn, no fluor
4814.0	32.3	14.		0.00	0.0	90.5	90.5	2.62	1.50	Sst; olv gry, cl-fsd, mod cmtd, mica, no odor, no stn, no fluor
4818.0	31.8	5.6		0.00	0.0	88.5	88.5	2.60	1.25	Sst; olv gry, cl-fsd, mod cmtd, mica, no odor, no stn, no fluor

* FRACTURED

PETROLEUM TESTING SERVICE, INC.

COMPANY ARCO Oil and Gas Company
CORE BARREL Schlumberger Sidewall Samples
MUD TYPE Water Base

WELL Rosenberger #1
FIELD Wildcat
COUNTY N/A
STATE N/A

CORE ANALYSIS

DEPTH FEET	HELIUM POROSITY PERCENT	AIR PERMEABILITY md.	O/W RATIO	SATURATION % PORE SPACE OIL	WATER	TOTAL	APPARENT SAND GRAIN DENSITY gm/cc	REC IN.	LITHOLOGY
4938.0	35.5	16.	0.00	0.0	93.4	93.4	2.62	1.50	Sst; olv gry, cl-fsd, mod cmtd, mica, no odor, no stn, no fluor

Type of Extraction - Dean Stark Toluene Extraction.
Confining Pressure on the Permeameter = 300 psi
Oil Gravity Estimated By Visual Fluorescence = N/A

These results must be used with caution. Sidewall core samples are obtained by impact coring. This method can fracture hard formations, thereby possibly increasing the porosity and permeability. In soft formations, impact coring can compact the samples, resulting in decreased porosity and permeability.

Drilling mud may penetrate fractures and soft formations, thereby affecting the porosity, permeability, fluid saturation, grain density and cation exchange capacity results.

BIOSTRATIGRAPHIC ANALYSIS OF THE ARCO ROSENBERGER NO. 1, SEC. 5-T26S-R25E, MDB+M, KERN COUNTY, CALIFORNIA

By: D. R. McKeel

December, 1987

B87-166

Internal Correspondence

Date: December 16, 1987

Subject: DISTRIBUTION OF B87-166: BIOSTRATIGRAPHIC ANALYSIS OF THE ARCO, ROSENBERGER NO. 1, SEC. 5-T26S-R25E, MDB+M, KERN COUNTY, CALIFORNIA

From/Location: D. R. McKeel D1315

Telephone: 214/754-6130

To/Location: Distribution

Washed cuttings were examined on the Rosenberger No. 1 from 706' in the Pleistocene Tulare to 5000' in the early Pliocene Etchegoin. Barren or shallow marine (inner neritic) section essentially throughout the studied interval prevent precise age interpretation. Tentative formational and age assignments follow Foss and Blaisdell (1968), who base their ages on megafossils and/or stratigraphic position.

D. R. McKeel

cc:

R. A. Christopher	D1328
A. D. Warren	D1216
M. Hobday	BA-706
M. Kamerling	BA-427

SUMMARY

One hundred, forty-one washed ditch cuttings and ten sidewall cores were examined on the Rosenberger No. 1 from 706' in the Pleistocene Tulare to 5000' in the early Pliocene Etchegoin. Faunal assemblages and lithologies are plotted (see pocket) at 30' intervals.

Essentially the entire well section studied was deposited under non-marine or very shallow (inner neritic) marine conditions. Precise age interpretations based on foraminifera alone are not possible with state of the art inner neritic foraminiferal biostratigraphy. Published ages for formations penetrated by the Rosenberger No. 1 are based largely upon megafossils and/or stratigraphic position (Foss and Blaisdell, 1968).

As in the ARCO Lieber No. 1, the Rosenberger section contains a distinctive shallow water fossil sequence. The non-marine lower Tulare is indicated from 2170 to 2430' by a fresh water snail fauna containing the same species as found from 1850 to 2150' in the Lieber No. 1. In addition, Brannerillus physispira is present in the Rosenberger. Higher in the Rosenberger Tulare, a bentonite? at 1360-1390' corresponds to a bentonite at 1310-1340' in the Lieber. The Rosenberger section from 2430-3580' is considered to be San Joaquin Formation. It contains a sequence of species of Elphidium similar to that in the Lieber, with highest E. foraminosum at the top, followed by E. hughesi about half way down. E. schwageri, however, appears first in the uppermost Etchegoin as interpreted in the Rosenberger, whereas its highest occurrence is in section called basal San Joaquin in the Lieber. The top of the Rosenberger Etchegoin is tentatively placed at 3580-3610', where shales above yield to very fine sandstone and shell hash, below. Within the Rosenberger Etchegoin, highest diatoms (not pyritized), spicules, and echinoids, in descending order, are useful in correlating to the Lieber No. 1. The Rosenberger section between bentonite at 1360-1390' and echinoids at 4540-4570' is expanded by 400' compared to equivalent Lieber section (from 1310 to 4050').

OPERATOR : ARCO
WELL/BLOCK : Rosenberger
FIELD NAME : Wildcat
COUNTY/AREA: Kern
SEC/TWP/RNG: 5 26S 25E
ANALYST : D.R. McKeel

DATE : 12-16-87
OCS :
STATE: CA

******** BATHYMETRY SUMMARY *********

706.00
[INDETERMIN]

2430.00
[1 - 49 MARINE, INNER NERITIC]

3570.00
[50 - 299 MARINE, MIDDLE NERITIC]

3580.00
[1 - 49 MARINE, INNER NERITIC]

OPERATOR : ARCO
WELL/BLOCK : Rosenberger
FIELD NAME : Wildcat
COUNTY/AREA: Kern
SEC/TWP/RNG: 5 26S 25E
ANALYST : D.R. McKeel

DATE : 12-16-87
OCS :
STATE: CA

*** DEPOSITIONAL ENVIRONMENT SUMMARY***
AND LOCAL BIOSTRATIGRAPHIC TOPS

706.00
[INDETERMINATE]

1360.00
[INDETERMINATE] Bentonite?

1390.00
[INDETERMINATE]

1690.00
[INDETERMINATE] Fish? remains

1720.00
[INDETERMINATE]

2170.00
[LACUSTRINE] Freshwater Molluscs

2200.00
[LACUSTRINE]

2290.00
[LACUSTRINE] Freshwater Ostracods

2320.00
[LACUSTRINE]

2430.00
[INNER NERITIC SHELF] Ammonia beccarii

2447.00
[INNER NERITIC SHELF]

2510.00
[INNER NERITIC SHELF] Pyrite increase

2526.00
[INNER NERITIC SHELF]

2950.00
[INNER NERITIC SHELF] Elphidium hughesi

2980.00
[INNER NERITIC SHELF]

3040.00
[INNER NERITIC SHELF] Buccella depressa

3070.00
[INNER NERITIC SHELF]

3550.00
[INNER NERITIC SHELF] Buccella sp var acute periphery

3570.00
[MID. NERITIC SHELF]

3580.00
[INNER NERITIC SHELF]

3610.00
[INNER NERITIC SHELF] Diatoms not pyritized

3618.00
[INNER NERITIC SHELF]

3700.00
[INNER NERITIC SHELF] Spicules

3719.00
[INNER NERITIC SHELF]

4120.00
[INNER NERITIC SHELF] Buliminella elegantissima

4150.00
[INNER NERITIC SHELF]

4210.00
[INNER NERITIC SHELF] Buccella sp var compressed

4240.00
[INNER NERITIC SHELF]

4540.00
[INNER NERITIC SHELF] Echinoids

4545.00
[INNER NERITIC SHELF]

OPERATOR : ARCO
WELL/BLOCK : Rosenberger
FIELD NAME : Wildcat
COUNTY/AREA: Kern
SEC/TWP/RNG: 5 26S 25E
ANALYST : D.R. McKeel

DATE : 12-16-87
OCS :
STATE: CA

******** ZONE / AGE SUMMARY *********

706.00	PLEI	PLEISTOCENE UPPER TULARE FORMATION
2170.00	PLEI	PROBABLY LOWER TULARE FORMATION
2430.00	PLIO	LATE PLIOCENE SAN JOAQUIN FORMATION
3580.00	PLIO	TOP(?) OF EARLY PLIOCENE ETCHEGOIN FM
4990.00	PLIO	PROBABLY STILL IN ETCHEGOIN FORMATION

REFERENCES

Foss, C.D., and Blaisdell, R., 1968, Stratigraphy of the West Side Southern San Joaquin Valley, in: Guidebook, Geology and Oil Fields, West Side Southern San Joaquin Valley. 43rd Annual Meeting, Pacific Sections AAPG-SEM-SEPM, 33-43.

Woodring, W.P., Stewart, R., and Richards, R.W., 1940, Geology of the Kettleman Hills Oil Field, California. U.S. Geological Survey Professional Paper 195, 170p., pls.

ARCO OIL & GAS COMPANY

GEOLOGICAL RESOURCES

OPERATOR: ARCO
WELL NAME: Rosenberger
SURVEY NAME:
FIELD NAME: Wildcat
LATITUDE:
COUNTY/PARISH: Kern
KB ELEVATION:
TD:
SAMPLE TOP
ANALYST: D.R. McKeel
SOURCE CO. ARCO

LONGTITUDE:

S/D HOLE:

API NO. 04029-81541
WELL NO. 1
S/T:
SEC/TWP/RNG: 5 -26S-25E
OCS:
STATE: CA
BUG GROUP: FO
TVD:
SAMPLE BOTTOM

COMMENTS:

DEPTH		COMMENT	LITHOLOGY	BATHYMETRY	DEPOSITIONAL ENVIRONMENT	ZONE/AGE
706.00	730.00	Cs ang sd,slghtly Fe-stained&tan sdy mds	DISS Cs,ang,&tan sdy mdst on20	INDETERMIN	INDT	PLEI PLEISTOCENE UPPER TULARE FORMATION
730.00	760.00	@@ on 40	DISS Cs,ang,&tan sdy mdst on20	INDETERMIN	INDT	
760.00	790.00	Cs ang sd, slghtly Fe-stained, on 40	DISS Cs,ang,&tan sdy mdst on20	INDETERMIN	INDT	
790.00	820.00	Sd @@, & tan sdy mdst on 40	DISS Cs,ang,&tan sdy mdst on20	INDETERMIN	INDT	
820.00	850.00	Ang cs sd, slghtly Fe-stained, on 40	DISS Angular & coarse on 20	INDETERMIN	INDT	
850.00	880.00	Sd @@, & tan sdy mdst on 40	DISS Ang, cs, & tan sdy mdst20	INDETERMIN	INDT	
880.00	910.00	As in sample above on 40	DISS Ang, cs, & tan sdy mdst20	INDETERMIN	INDT	
910.00	940.00	Ang cs sd, slghtly Fe-stained, on 40	DISS Ang-sbang&lt brn sdy mdst	INDETERMIN	INDT	
940.00	970.00	Sd @@, w/ incr in tan slghtly sdy mdst40	DISS Ang-sbrdd;incr sdy mdst	INDETERMIN	INDT	
970.00	1000.00	Ang sd @@ & tan sdy mdst on 40	DISS Ang-sbang,&tan sdy mdst20	INDETERMIN	INDT	
1000.00	1030.00	Ang sd @@, & tan sdy mdst on 40	DISS Ang-sbang,&tan sdy mdst20	INDETERMIN	INDT	
1030.00	1060.00	Cs ang sd @@, & tan sdy mdst on 40	DISS Cs ang-sbrdd&tan sdy mdst	INDETERMIN	INDT	
1060.00	1090.00	Ang-sbang sd @@ & less tan sdy mdst on40	SSST Ang-sbang,cs,&tan sdy mds	INDETERMIN	INDT	
1090.00	1120.00	As in sample above on 40	SSST Ang-sbang,cs,&tan sdy mds	INDETERMIN	INDT	
1120.00	1150.00	Ang sd @@,w/ incr in transparence,&mds@@	SSST Ang-sbang,cs,&tan sdy mds	INDETERMIN	INDT	
1150.00	1180.00	Sd @@, & tan sdy mdst on 40	DISS @@,w/ incr in tan sdy mds	INDETERMIN	INDT	
1180.00	1210.00	@@, plus rare fn sdst on 40	SSST @@, plus rare fine sdst20	INDETERMIN	INDT	
1210.00	1240.00	Ang sd, mostly trnsprnt, & tan sdy mdst	DISS Ang,@@ & tan sdy mdst 20	INDETERMIN	INDT	
1240.00	1270.00	Ang sd @@ & rare tan sdy mdst on 40	DISS Ang,@@ & tan sdy mdst 20	INDETERMIN	INDT	
1270.00	1300.00	Ang sd & tan sdy mdst on 40	DISS Ang,@@ & tan sdy mdst 20	INDETERMIN	INDT	

1150.00	1180.00	Sd @@, & tan sdy mdst on 40	DISS	@@,w/ incr in tan sdy mds	INDETERMIN	INDT		
1180.00	1210.00	@@, plus rare fn sdst on 40	SSST	@@, plus rare fine sdst20	INDETERMIN	INDT		
1210.00	1240.00	Ang sd, mostly trnsprnt, & tan sdy mdst	DISS	Ang,@@ & tan sdy mdst 20	INDETERMIN	INDT		
1240.00	1270.00	Ang sd @@ & rare tan sdy mdst on 40	DISS	Ang,@@ & tan sdy mdst 20	INDETERMIN	INDT		
1270.00	1300.00	Ang sd & tan sdy mdst on 40	DISS	Ang,@@ & tan sdy mdst 20	INDETERMIN	INDT		
1300.00	1330.00	Ang sd, mostly trnsprnt, & rare sdy mdst	DISS	@@,w/ decr in tan sdy mds	INDETERMIN	INDT		
1330.00	1360.00	Ang sd, mostly trnsprnt-some grns yllwsh	DISS	Ang,some slghtly Fe-stnd	INDETERMIN	INDT		
1360.00	1390.00	Ang white sd & grnsh-gry to tan mdst 40	DISS	Ang,&grnsh-gry to tan mds	INDETERMIN	INDT	Bentonite?	
1390.00	1420.00	@@,w/ decr in through 40 mesh fractions	DISS	@@but mds lghtr grnsh gry	INDETERMIN	INDT		
1420.00	1450.00	Ang white to trnsprnt sd & mdst as on 20	DISS	Ang,&lt grysh-tn slty mds	INDETERMIN	INDT		
1450.00	1480.00	Ang trnsprnt to wht sd&mdst same as on20	DISS	Ang, & lt grnsh-gry mdst	INDETERMIN	INDT		
1480.00	1510.00	Sd @@, & lt grnsh-gry mdst on 40	DISS	Ang, & lt grnsh-gry mdst	INDETERMIN	INDT		
1510.00	1540.00	Trnsprnt to wht ang sd&lt grnsh-gry mdst	DISS	@@,&lt grnsh-gry slty mds	INDETERMIN	INDT		
1540.00	1570.00	Ang trnsprnt to wht sd,&grnsh-gry mdst40	DISS	@@-some mdst slty or sdy	INDETERMIN	INDT		
1570.00	1600.00	Trnsprnt to wht ang sd,w/ a few gry grns	DISS	Wht to lt gry,&rare mdst	INDETERMIN	INDT		
1600.00	1630.00	Trnsprnt to wht ang sd & rare mdst @@ 40	DISS	Ang-sbrdd&mdst @@,sdy 20	INDETERMIN	INDT		
1630.00	1660.00	Trnsprnt to wht ang sd & rare mdst on 40	DISS	Ant-sbng&rare mdst on 20	INDETERMIN	INDT		
1660.00	1690.00	Sd @@& tan & grnsh-gry sdy mdst on 40	DISS	@@&grnsh-gry&tan mdst 20	INDETERMIN	INDT		
1690.00	1720.00	Trnsprnt to wht ang sd& grnsh-gry mdst40	MUDS	Grnsh-gry&sd@@&tan mdst20	INDETERMIN	INDT		
1720.00	1750.00	Sd@@,some yllwsh&cement&tan mdst on 40	MUDS	Tan,sdy&cement&ang sd 20	INDETERMIN	INDT	Fish? remains	
1750.00	1780.00	Trnsprnt to wht ang sd&grnsh-gry mdst 40	DISS	Ang,&grnsh-gry mdst on 20	INDETERMIN	INDT		
1780.00	1810.00	Trnsprnt to wht ang sd & rare mdst on 40	DISS	@@&grnsh-gry-lt brn mdst	INDETERMIN	INDT		
1810.00	1840.00	Sd @@.Major decr in through 40 fractions	DISS	Trnslcnt to white on 20	INDETERMIN	INDT		
1840.00	1870.00	Trnsprnt to wht ang sd on 40	DISS	Ang trnslcnt to wht on 20	INDETERMIN	INDT		
1870.00	1900.00	Trnsprnt to wht ang sd & rare mdst on 40	DISS	@@&grnsh-gry mdst few 20	INDETERMIN	INDT		
1900.00	1930.00	Trnsprnt to wht ang sd & rare mdst on 40	DISS	Trnslcnt to wht&rare mdst	INDETERMIN	INDT		
1930.00	1960.00	Trnsprnt to wht ang sd on 40	DISS	@@,&grnsh-gry mdst on 20	INDETERMIN	INDT		
1960.00	1990.00	Sd @@ & rare v fn accs sdst on 40	DISS	@@&LCM.Small sample size	INDETERMIN	INDT		
1990.00	2020.00	Trnsprnt to wht sd & rare mdst & sltst40	DISS	Cs sd&rare grnsh-gry slts	INDETERMIN	INDT		
2020.00	2050.00	Sd @@ & v lt grnsh-gry mdst freq on 40	DISS	Ang&rare mdst&v rare slts	INDETERMIN	INDT		
2050.00	2080.00	Trnsprnt to wht ang sd & grnsh-gry mdst	MUDS	Lt grnsh-gry,&cs sd on 20	INDETERMIN	INDT		
2080.00	2110.00	Sample missing	USER	Sample missing				
2110.00	2140.00	Trnsprnt to white ang sd & grnsh-gry mds	MUDS	Grnsh-gry. Essent. no sd	INDETERMIN	INDT		
2140.00	2170.00	Trnsprnt to wht ang sd & grnsh-gry mdst	MUDS	Grnsh-gry&ang-sbang sd 20	INDETERMIN	INDT		
2170.00	2200.00	Trnsprnt to wht ang sd on 40	MUDS	Grnsh-gry on 20	INDETERMIN	INDT		
2200.00	2230.00	Trnsprnt to gry ang sd on 40	MUDS	@@,but approaching shale	INDETERMIN	LACU	Freshwater Molluscs	PLEI PROBABLY LOWER TULARE FORMATION
2230.00	2260.00	Trnsprnt to gry ang sd & grnsh-gry mdst	SHAL	Grnsh-gry fsslfrs sh/mdst	INDETERMIN	LACU		
2260.00	2290.00	Trnsprnt to trnslcnt sd & grnsh-gry sh40	SHAL	Grnsh-gry sh/mdst on 20	INDETERMIN	LACU		
2290.00	2305.00	Trnsprnt to gry ang sd & grnsh-gry mdst	SHAL	@@,fossiliferous on 20	INDETERMIN	LACU		
2305.00	2320.00	Sample gap	USER	Sample gap	INDETERMIN	LACU	Freshwater Ostracods	
2320.00	2350.00	Trnsprnt to gry ang sd & grnsh-gry sh 40	SHAL	Grnsh gry w/ fish remains				
2350.00	2360.00	Sample gap	USER	Sample gap	INDETERMIN	LACU		
2360.00	2380.00	Trnsprnt to gry ang snd & grnsh-gry sh 40	SHAL	Grnsh-gry,fsslfrs on 20				
2380.00	2390.00	Sample gap	USER	Sample gap	INDETERMIN	LACU		
2390.00	2400.00	Sml spl thru 20.Grnsh-gry sh & sd on 40	SHAL	Grnsh-gry fsslfrs on 20	INDETERMIN	LACU		
2400.00	2430.00	Sample missing	USER	Sample missing				
2404.00	2404.00	Grnsh-gry sh on 40	SHAL	Grnsh-gry,w/fish remainsR				
2430.00	2470.00	Trnsprnt to gry sd,shll frgs&olv-gry mds	SHAL	Olv gry&gry sd&shll frgs	INDETERMIN	LACU		
2447.00	2447.00	Lt grnsh-gry sdy sh on 40	SHAL	Lt grnsh-gry,sdy.Pyr&fish	1 - 49	INNR	Ammonia beccarii	PLIO LATE PLIOCENE SAN JOAQUIN FORMATION
2470.00	2510.00	Sample gap	USER	Sample gap	1 - 49	INNR		
2476.00	2476.00	Grnsh-gry mdst on 40	USER	Nothing saved on 20 mesh	1 - 49	INNR		
2510.00	2540.00	Sd & shll frgs @@&olv brn to olv grn sh	SHAL	Olv-gry&shll frgs& sd 20	1 - 49	INNR		
2526.00	2526.00	Grnsh-gry shale on 40	USER	Nothing saved on 20 mesh	1 - 49	INNR	Pyrite increase	
2530.00	2560.00	Sd @@, shll frgs, & grnsh-gry sh on 40	SHAL	Grnsh-gry on 20	1 - 49	INNR		
2560.00	2590.00	Sd @@, grnsh-gry sh, & shll frgs on 40	SHAL	Grnsh-gry on 20	1 - 49	INNR		
2590.00	2620.00	Ang-sbang sd & grnsh-gry sh on 40	SHAL	Olv brn & grnsh-gry on 20	1 - 49	INNR		
2620.00	2650.00	Ang trnsprnt sd, shll frgs & pyrt on 40	SHAL	Grnsh-gry & olv brn on 20	1 - 49	INNR		
2650.00	2680.00	Trnsprnt to gry ang sd & sh on 40	SHAL	@@w/grn lgntc&brn fsslfrs	1 - 49	INNR		
2680.00	2710.00	Trnsprnt to trnslcnt ang sd&grnsh-gry sh	SHAL	Grnsh-gry on 20	1 - 49	INNR		
2710.00	2740.00	Grnsh-gry sh, some slightly sdy on 40	SHAL	Grnsh-gry,some lgntc&sdy	1 - 49	INNR		
2740.00	2770.00	Ang sd, olv-brn sh & grnsh-gry calc sh40	MUDS	Grnsh-gry calc&olv brn 20	1 - 49	INNR		
2770.00	2800.00	Trnslcnt to trnsprnt sd & calc mdst 40	SHAL	Olv brn & grnsh-gry on 20	1 - 49	INNR		
2800.00	2830.00	Trnsprnt ang sd on 40	SHAL	Grnsh-gry,slghtly slty 20	1 - 49	INNR		
2830.00	2860.00	Trnsprnt ang sd & grnsh-gry sh on 40	SHAL	Grnsh-gry on 20	1 - 49	INNR		
2860.00	2890.00	Grnsh-gry sh on 40	SHAL	Grnsh-gry w/vfn ss layers	1 - 49	INNR		

2890.00	2920.00	Grnsh-gry sh&ang sd.Major incr sd thru40	SHAL	Grnsh-gry,some slty&sdy20	1 - 49	INNR	
2920.00	2950.00	Mostly sd;some grnsh-gry & lt tan sh 40h	SHAL	@@but hghly fsslfrs&sd 20	1 - 49	INNR	
2950.00	2980.00	Ang trnsprnt sd & grnsh-gry & olv brn sh	SHAL	Grnsh-gry & olv brn on 20	1 - 49	INNR	
2980.00	3010.00	Grnsh-gry sh, shll frgs, & ang sd on 40	SHAL	Grnsh-gry,&shll frgs 20	1 - 49	INNR	Elphidium hughesi
3010.00	3040.00	Ang trnsprnt sd & grnsh-gry sh on 40	SHAL	Grnsh-gry,slty,&lignite20	1 - 49	INNR	
3040.00	3070.00	Trnsprnt ang sd,grnsh-gry sh,&shll frgs	SHAL	@@,slty & sdy,&shll frgs	1 - 49	INNR	
3070.00	3100.00	Grnsh-gry sh, shll frgs, & ang sd on 40	SHAL	Grnsh-gry, & shll frgs 20	1 - 49	INNR	Buccella depressa
3100.00	3130.00	Olv brn sh, shll frgs, & ang sd on 40	SHAL	Olv brn, & shll frgs on20	1 - 49	INNR	
3130.00	3160.00	Lt grnsh to olv gry sh,lgnt,&shll frgs40	SHAL	Lt grnsh-gry on 20	1 - 49	INNR	
3160.00	3190.00	Grnsh-gry to olv gry sh & shll frgs 40	SHAL	Grnsh-gry & olv gry sh 20	1 - 49	INNR	
3190.00	3220.00	Grnsh to olv gry sh on 40;incr spl size	SHAL	Grnsh-gry on 20	1 - 49	INNR	
3220.00	3250.00	Grnsh-gry sh & shll frgs on 40	SHAL	@@ w/ rare fish remains20	1 - 49	INNR	
3250.00	3280.00	Grnsh to olv gry sh on 40	SHAL	Grnsh to olv gry sh on 20	1 - 49	INNR	
3280.00	3310.00	Olive gray shale on 40	SHAL	Olv gry, & shll frgs 20	1 - 49	INNR	
3310.00	3340.00	95&5 olv gry sh on 40. Incr sd thru 40	SHAL	Olv gry, & shll frgs 20	1 - 49	INNR	
3340.00	3370.00	Grnsh-gry sh on 40	SHAL	Grnsh-gry on 20	1 - 49	INNR	
3370.00	3400.00	Grnsh-gry to olv gry sh on 40	SHAL	Grnsh-gry on 20	1 - 49	INNR	
3400.00	3430.00	Grnsh-gry&olv gry sh,&rare lt gry sltst	SHAL	Grnsh-gry to olv gry 20	1 - 49	INNR	
3430.00	3460.00	Olv brn sh & ang-sbang trnslcnt sd on 40	SHAL	Olv brn on 20	1 - 49	INNR	
3460.00	3490.00	Grnsh-gry sh,some slty, & olv brn sh 40	SHAL	Grnsh-gry,some slty on 20	1 - 49	INNR	
3490.00	3520.00	Grnsh-gry to olv gry sh on 40	SHAL	Grnsh-gry to olv gry 20	1 - 49	INNR	
3520.00	3550.00	Grnsh-gry & olv brn sh on 40	SHAL	90&10 grnsh-gry&olv brn20	1 - 49	INNR	
3550.00	3580.00	Grnsh-gry sh & shll frgmnts on 40	SHAL	Grnsh-gry on 20	1 - 49	INNR	
3570.00	3570.00	Grnsh-gry sh & shll frgs on 40	SHAL	Grnsh-gry,fsslfrs on 20	50 - 299	MIDL	Buccella sp var acute periphery
3580.00	3610.00	Sh@@,ang clear to olv sd,shl fgs&v fn ss	SHAL	Grnsh-gry,olv brn&shl fgs	1 - 49	INNR	
3610.00	3640.00	Trnsprnt olv to clr sd,shl frgs&v fn ss	SHAL	@@,shl frgs&lt gry vfn ss	1 - 49	INNR	PLIO TOP(?) OF EARLY PLIOCENE ETCHEGOIN FM
3618.00	3618.00	Fn ss on 40. All specimens badly etched.	USER	Nothing saved on 20 mesh	1 - 49	INNR	Diatoms not pyritized
3640.00	3670.00	Olv ang sd,shl frgs,olv brn sh&vfn ss40	SHAL	Olv gry&shl frgs&vfn ss20	1 - 49	INNR	
3670.00	3700.00	Shll frgs, sd, sh & vfn ss on 40	USER	Shll frgs(80%),sd & sh 20	1 - 49	INNR	
3700.00	3730.00	Ang-sbang sd, shl frgs,vfn ss,& sh on 40	USER	Shl frgs,sh,&vfn ss on 20	1 - 49	INNR	Spicules
3719.00	3719.00	Fn ss on 40	USER	Nothing saved on 20 mesh	1 - 49	INNR	
3730.00	3760.00	Olv ang sd,shll frgs,vfn ss,&sh on 40	SSST	Vfn&grnsh-gry sh,sd&shlls	1 - 49	INNR	
3760.00	3790.00	Grnsh-gry sh, vfn ss, ang sd & shll frgs	SHAL	Grnsh to olv gry&vfn ss20	1 - 49	INNR	
3772.00	3772.00	Grnsh-gry vf ss on 40	SSST	Grnsh-gry,vf,on 20 mesh	1 - 49	INNR	
3790.00	3820.00	Ang sd, vfn-fn ss,shll frgs & sh on 40	SSST	Vfn-fn&gry to brn sh @@20	1 - 49	INNR	
3820.00	3850.00	Shlls,ang sd, olv brn sh & vfn ss on 40	USER	Shls,olv brn sh&ltgryslts	1 - 49	INNR	
3850.00	3880.00	Olv sd, shll frgs & vfn ss. Incr sd.	USER	@@plus vfn-fn ss on 20	1 - 49	INNR	
3880.00	3910.00	Grnsh-gry sh, vfn-fn ss & shll frgs 40	SHAL	Grnsh-gry,ss@@,some spkld	1 - 49	INNR	
3910.00	3940.00	Olv sd, shll frgs, & lt gry vfn ss on 40	SHAL	@@,sd,shlls,ss,some spkld	1 - 49	INNR	
3940.00	3970.00	Olv sd, shll frgs, & vfn ss on 40	USER	Shl frgs,sd,vfn ss &fn ss	1 - 49	INNR	
3970.00	4000.00	Shl frgs,vfn ss, fn spckld ss&olv brn sh	USER	@@w/incr fn speckled ss20	1 - 49	INNR	
4000.00	4030.00	Olv brn sh, vfn ss, & shll frgs on 40	SHAL	Grnsh-gry w/vfn ss layers	1 - 49	INNR	
4030.00	4060.00	Grnsh-gry sh, olv brn sh, & vfn ss on 40	SHAL	Grnsh-gry&vfn ss&sdy sh20	1 - 49	INNR	
4060.00	4090.00	Vfn ss, olv brn sh & ang sd on 40	SSST	Ltgry vfn&lg pcs caved sh	1 - 49	INNR	
4090.00	4120.00	Shll frgs, olv brn sh, & lt gry vfn ss40	USER	Shl frgs,olvbrn sh&vfn ss	1 - 49	INNR	
4120.00	4150.00	Shll frgs, vfn-fn ss, & olv brn sh on 40	USER	S.f.,sh,vfn,fn&sed ss 20	1 - 49	INNR	
4150.00	4180.00	Shll frgs, olv brn sh, ang sd&vfn ss 40	USER	Shll frgs, sh & slty sh20	1 - 49	INNR	Buliminella elegantissima
4180.00	4210.00	Ang sd, olv brn sh, vfn ss,&shll frgs 40	SSST	Vfn, & lt gry slty mdst20	1 - 49	INNR	
4210.00	4240.00	Vfn ss, ang sd,&shll frgs.Decr spl size	SLTS	Lt gry, & vfn sdst on 20	1 - 49	INNR	
4240.00	4270.00	Lt gry sh, sltst & vfn ss on 40	SLTS	@@,&lg pcs caved? sh on20	1 - 49	INNR	Buccella sp var compressed
4270.00	4300.00	Sltst to vfn ss & grnsh-gry sh on 40	SLTS	Lt gry&vfn ss&grnsh-gry sh	1 - 49	INNR	
4300.00	4330.00	Shll frgs, olv brn sh & vfn ss on 40	SSST	Lt gry vfn,&lt gry slts20	1 - 49	INNR	
4330.00	4360.00	Fn spckld ss to slts,ang sd & rck frgs40	SSST	Fn-grnd glcntc(spckld) 20	1 - 49	INNR	
4360.00	4390.00	Ang sd, shll frgs, & vfn sdst to slts 40	SLTS	Lt gry, & fn spckld ss 20	1 - 49	INNR	
4390.00	4420.00	Shll frgs, vfn ss, & ang sd on 40	SSST	Vfn,&fn spckld ss on 20	1 - 49	INNR	
4420.00	4450.00	Shll frgs, vfn ss & ang sd on 40	SSST	lt gry vf & shll frags 20	1 - 49	INNR	
4450.00	4480.00	Shll frgs flood,w/ some vf ss on 40	SLTS	Lt gry,&vf ss&shll frgs20	1 - 49	INNR	
4480.00	4510.00	Grnsh-gry sh, shll frgs & lt gry sltst40	SHAL	Grnsh-gry,&lt gry sltst20	1 - 49	INNR	
4510.00	4540.00	Sh @@,vf-f mddy ss, & shll frgs on 40	SHAL	@@,&vf ss, some mddy 20	1 - 49	INNR	
4540.00	4570.00	Grnsh-gry sh & vf ss, some mddy on 40	SHAL	Grnsh-gry on 20	1 - 49	INNR	Echinoids
4545.00	4545.00	Lt grnsh-gry vf slty ss on 40	SLTS	Lt grnsh-gry accs,sdy 20	1 - 49	INNR	
4570.00	4600.00	Grnsh-gry sh, vf ss, ang sd & shll frgs	SHAL	@@, & vf mddy ss on 40	1 - 49	INNR	
4600.00	4630.00	Shll frgs, grnsh-gry sh, ang sd&vf ss 40	SSST	vf,&grnsh to olv gry sh20	1 - 49	INNR	
4630.00	4660.00	Sd,shll frgs, ss & sh.E.schwageri larger	SSST	vf, & grnsh-gry sh on 20	1 - 49	INNR	
4660.00	4690.00	Grnsh-gry sh, lt grnsh-gry vf ss&shl frg	SHAL	Gnsh-gy&vf lt gnsh-gy ss	1 - 49	INNR	
4690.00	4720.00	Ang sd, grnsh-gry sh,shll frgs&vf ss 40	SHAL	Grnsh-gry&lt gry vf ss 20			

4720.00	4750.00	Ang sd, shll frgs & grysh-brn sh on 40	SHAL	Grysh-brn,some slty&angsd	1 - 49	INNR
4750.00	4780.00	Grysh-brn sh,ang sd, shll frgs & sltst40	SHAL	@@&sltst to vf ss on 20	1 - 49	INNR
4780.00	4810.00	Flood of shell fragments on 40 mesh	USER	Shll frgs&rare vf-fn ss20	1 - 49	INNR
4810.00	4840.00	Flood of shell fragments & some vf ss 40	USER	Shll frgs&rare vf-fn ss20	1 - 49	INNR
4840.00	4870.00	Sh@@,sd,shll frgs,vf ss.Decr spl sizess	SHAL	Gysh-bn,&lt gy to bn vfss	1 - 49	INNR
4870.00	4900.00	Grnsh-gry sh,shll frgs,ang sd&vf ss on40	SHAL	Grnsh-gry,w/silty layers	1 - 49	INNR
4900.00	4930.00	Ang sd,shll frgs,grnsh-gry sh&vf ss on40	SHAL	Grnsh-gry,&grysh-brn slts	1 - 49	INNR
4930.00	4960.00	Grnsh-gry slty & sdy sh, & shll frgs 40	SHAL	@@,w/ slty&vfn sd layers	1 - 49	INNR
4960.00	4990.00	Grnsh-gry sh, shll frgs & vf ss on 20	SHAL	Brnsh-gry w/slty layers	1 - 49	INNR
4975.00	4975.00	Essent. no on 40. Fn sd on 80 mesh	USER	Nothing saved on 20 mesh	1 - 49	INNR
4990.00	5000.00	Grnsh-gry sh, shll frgs&vf ss on 40	SHAL	Grnsh-gry,&sltst on 20	1 - 49	INNR

PLIO PROBABLY STILL IN ETCHEGOIN FORMATION

CHRT	CHERT
COAL	COAL
SHAL	SHALE
MUDS	MUDSTONE
SLTS	SILTSTONE
SSST	SANDSTONE
DISS	DISAGGREGATED SAND
CONG	CONGLOMERATE
BREC	BRECCIA
LIME	LIMESTONE
DOLO	DOLOMITE
EVAP	EVAPORITE
META	METAMORPHIC
IGNE	IGNEOUS
VOLC	VOLCANIC
USER	USER INPUT DATA

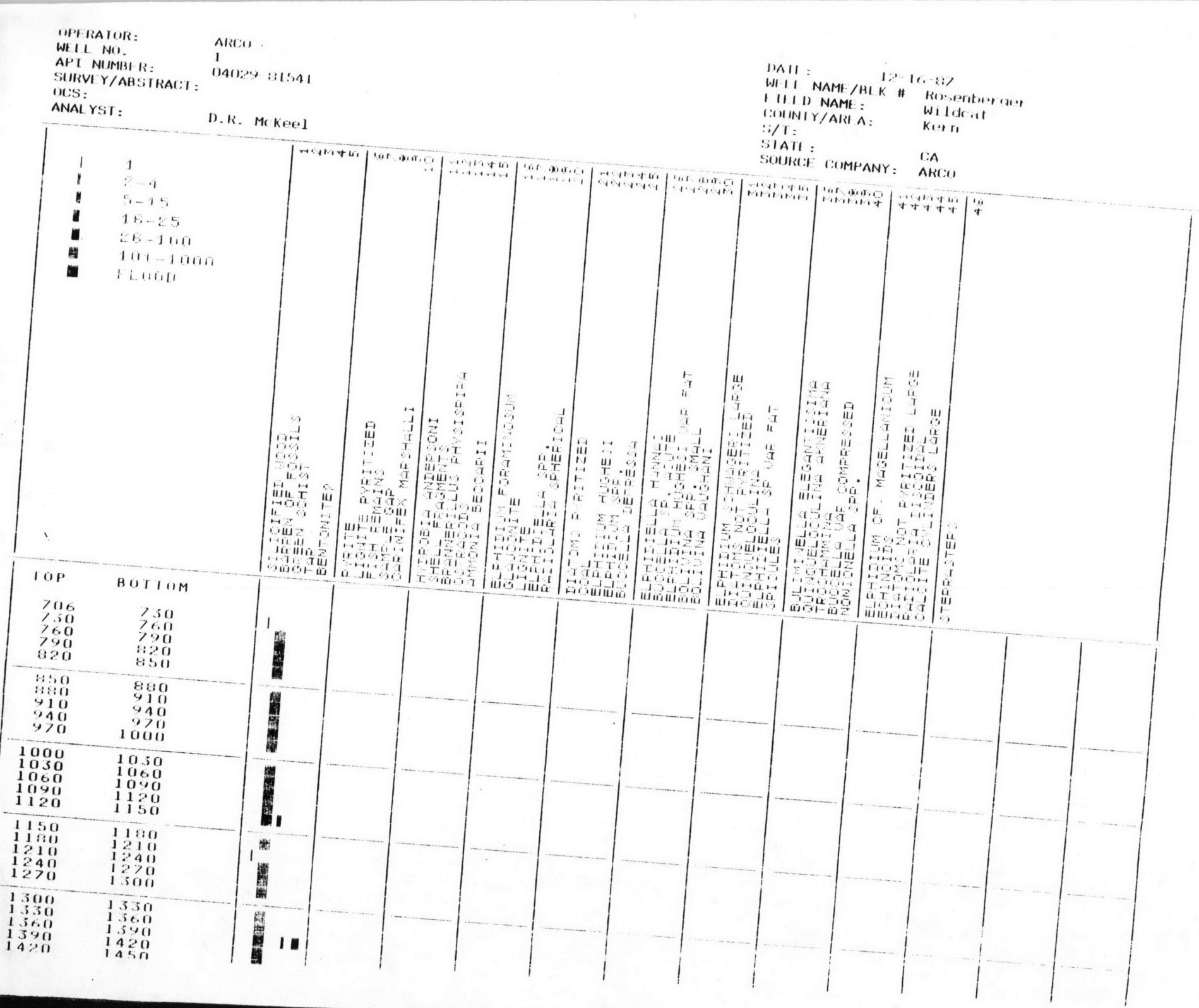
NON	NON-MARINE
LACU	LACUSTRINE
EVAP	EVAPORITIC
TRAN	TRANSITIONAL
LAGO	LAGOON
DELT	DELTA
MARI	MARINE
INNR	INNER NERITIC SHELF
MIDL	MID. NERITIC SHELF
OUTR	OUTER NERITIC SHELF
SHBR	SHELF-SLOPE BREAK
SLOP	SLOPE
CNYN	CANYON
RISE	CONTINENTAL
FAN	FAN
REEF	REEF
BANK	BANK
SHOL	SHOAL
INDT	INDETERMINATE
USER	USER INPUT DATA

OPERATOR: ARCO
WELL NO. 1
API NUMBER: 04029 81541
SURVEY/ABSTRACT:
OCS:
ANALYST: D.R. McKeel

DATE: 12-16-87
WELL NAME/BLK #: Rosenberger
FIELD NAME: Wildcat
COUNTY/AREA: Kern
S/T:
STATE: CA
SOURCE COMPANY: ARCO

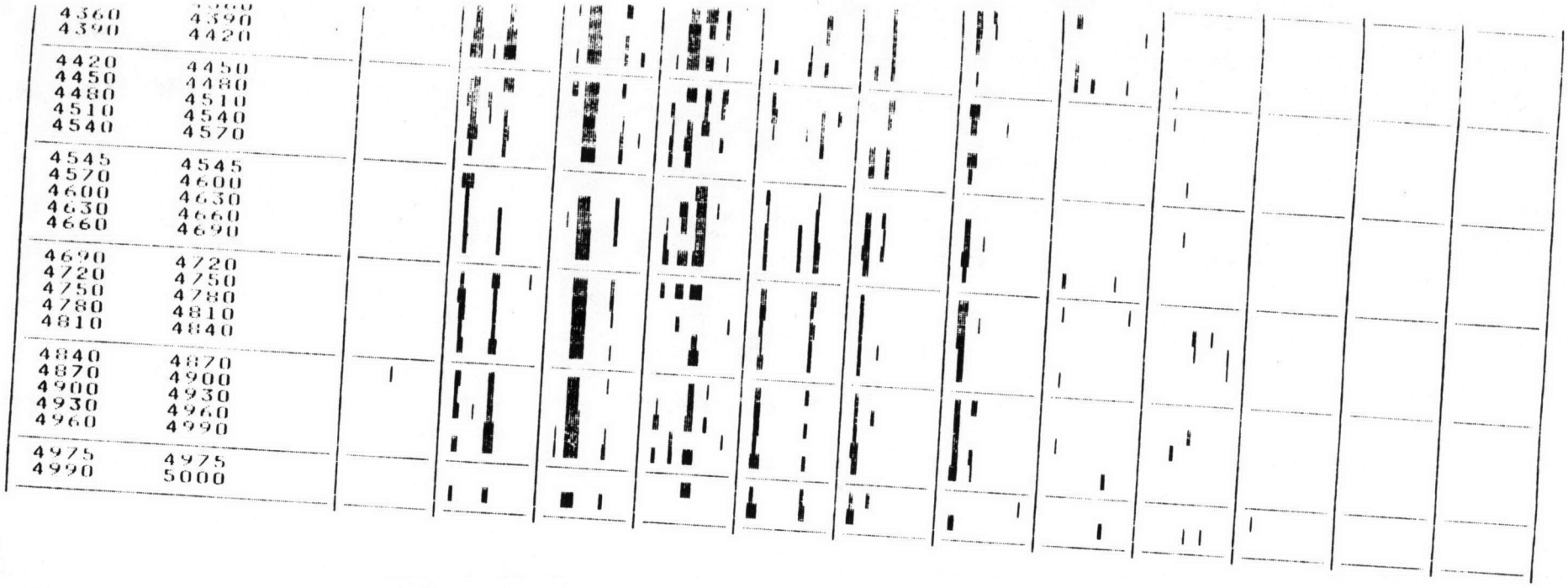
1 1
2-4 2-4
5-15 5-15
16-25 16-25
26-100 26-100
101-1000 101-1000
FLOOD FLOOD

TOP	BOTTOM
706	730
730	760
760	790
790	820
820	850
850	880
880	910
910	940
940	970
970	1000
1000	1030
1030	1060
1060	1090
1090	1120
1120	1150
1150	1180
1180	1210
1210	1240
1240	1270
1270	1300
1300	1330
1330	1360
1360	1390
1390	1420
1420	1450



1330	1360
1360	1390
1390	1420
1420	1450
1450	1480
1480	1510
1510	1540
1540	1570
1570	1600
1600	1630
1630	1660
1660	1690
1690	1720
1720	1750
1750	1780
1780	1810
1810	1840
1840	1870
1870	1900
1900	1930
1930	1960
1960	1990
1990	2020
2020	2050
2050	2080
2080	2110
2110	2140
2140	2170
2170	2200
2200	2230
2230	2260
2260	2290
2290	2305
2305	2320
2320	2350
2350	2360
2360	2380
2380	2390
2390	2400
2400	2430
2404	2404
2430	2470
2447	2447
2470	2510
2476	2476
2510	2540
2526	2526
2530	2560
2560	2590
2590	2620
2620	2650
2650	2680
2680	2710
2710	2740
2740	2770
2770	2800
2800	2830
2830	2860
2860	2890
2890	2920
2920	2950
2950	2980
2980	3010
3010	3040
3040	3070
3070	3100

3100
3130
3160
3190
3220
3250
3280
3310
3340
3370
3400
3430
3460
3490
3520
3550
3580
3610
3640
3670
3700
3730
3760
3790
3820
3850
3880
3910
3940
3970
4000
4030
4060
4090
4120
4150
4180
4210
4240
4270
4300
4330
4360
4390
4420
4450
4480
4510
4540
4570
4600
4630
4660
4690
4720
4750
4780
4810
4840
4870



23 ELPHIDIUM HUGHESI
15 AMMONIA BECCARII
2 BARREN OF FOSSILS
5 BENTONITE?
29 BOLIVINA SPP. SMALL
30 BOLIVINA VAUGHANI
13 BRANNERILLUS PHYSISPIRA
25 BUCCELLA DEPRESSA
27 BUCCELLA SP. ACUTE
39 BUCCELLA VAR COMPRESSED
36 BULIMINELLA ELEGANTISSIMA
45 CALCITE CYLINDERS LARGE
10 CARINIFEX MARSHALLI
22 COAL
32 DIATOMS NOT PYRITIZED
43 DIATOMS NOT PYRITIZED LARGE
21 DIATOMS PYRITIZED
42 ECHINOIDS
26 ELPHIDIELLA HANNAI
34 ELPHIDIELLA SP VAR FAT
19 ELPHIDIELLA SPP.
41 ELPHIDIUM CF. MAGELLANICUM
16 ELPHIDIUM FORAMINOSUM
28 ELPHIDIUM HUGHESI VAR FAT
31 ELPHIDIUM SCHWAGERI LARGE
24 ELPHIDIUM SPP.
8 FISH REMAINS
17 GLAUCONITE
3 GREEN SCHIST
11 HYDROBIA ANDERSONI
18 LIGNITE
7 LIGNITE PYRITIZED
40 NONIONELLA SPP.
14 OSTRACODS
6 PYRITE
33 QUINQUELOCULINA
37 QUINQUELOCULINA AKNERIANA
44 RADIOLARIA DISCOIDAL
20 RADIOLARIA SPHERICAL
9 SAMPLE GAP
12 SHELL FRAGMENTS
1 SILICIFIED WOOD
35 SPICULES
46 STERRASTERS
4 TAR

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

No. T 487-891

DIVISION OF OIL AND GAS

Report on Operations

Kwang U. Park
ARCO OIL & GAS CO.
P. O. Box 147
Bakersfield, CA 93302

Bakersfield, Calif.
December 16, 1987

Your operations at well "Rosenberger" 1, API No. 029-81541,
Sec. 5, T. 26S R. 25E, M.D. B.& M. --, Field, in Kern County,
were witnessed on 12/7/87. Floyd Leeson, representative of
the supervisor, was present from 1200 to 1230. There were also present
Bob Kirkpatrick, operator representative.
Present condition of well: 13 3/8" cement 50'; 9 5/8" cement 704'. TD 5000'. Plug with cement 3850'-3470', 2070'-1832', 760'-654'±, 60'-0'.

The operations were performed for the purpose of abandonment.

DECISION: THE PLUGGING OPERATIONS AS WITNESSED AND REPORTED ARE APPROVED.

FL:jk

EDP
12-18-87

M. G. Mefferd, State Oil & Gas Supervisor

By: E. A. Welge

E. A. Welge, Deputy Supervisor

OG109 (9/83/GSR1/15M)

487-891

DIVISION OF OIL AND GAS
Cementing/Plugging Memo

Operator ARCO Well No. Rosenberger 1
API No. 029-81541 Sec. 5, T. 26S, R. 25E, MD B&M
Field ~~Kern~~ —, County KERN. On 12/7/87,
Mr. Floyd Lobsen, representative of the supervisor was present from 1200 to 1230.
There were also present BOB KIRKPATRICK Operator Rep.
Casing record of well: 13 3/8 csm 50'; 9 5/8 csm 704. TD 5000.
Plug w/cement 3850-3470, 2070-1832,
760-654±, 60-0.

The operations were performed for the purpose of A-1 OK RP

☒ The ~~plugging~~/cementing operations as witnessed and reported are approved.
☐ The location and hardness of the cement plug @_____' is approved.

Hole size:_____" fr._____' to_____', _____" to_____' & _____" to_____'

Casing				Cemented			Top of Fill		Squeezed Away	Final Press.	Perfs.
Size	Wt.	Top	Bottom	Date	MO-Depth	Volume	Annulus	Casing			

Casing/tubing recovered:_____" shot/cut at_____', _____', _____' pulled fr._____';
_____" shot/cut at_____', _____', _____' pulled fr._____'.

Junk (in hole):_____

Hole fluid (bailed to) at_____'. Witnessed by_____

Mudding	Date	Bbls.	Displaced	Poured	Fill	Engr.

Cement Plugs		Placing	Placing Witnessed		Top Witnessed			
Date	Sx./cf	MO & Depth	Time	Engr.	Depth	Wt/Sample	Date & Time	Engr.
12/7	140 SX	DP 3850	RpT	TR	3470	DP 10000	RpT	
✓	84 sx	DP 2070	↘	\	1832	\	12/7 1200	TR
✓	62 cf	✓ 760	✓	✓				
✓	28 cf	✓ 60	✓	✓	SURF	visual	RpT	TR

OGD10 (10/85/DWRR/5M)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

No. P 488- 62

PERMIT TO CONDUCT WELL OPERATIONS

000 (field code)

(area code)

(new pool code)

(old pool code)

Kwang U. Park
ARCO OIL & GAS COMPANY
P. O. Box 147
Bakersfield, CA 93302

Bakersfield, California
January 7, 1988

Your proposal to abandon well "Rosenberger" 1,
A.P.I. No. 029- 81541, Section 5, T. 26S, R. 25E, MD B. & M.,
--- field, --- area, --- pool,
Kern County, dated 12/29/87, received 1/5/88 has been examined in conjunction with records filed in this office.

DECISION: THE PROPOSAL, COVERING WORK ALREADY COMPLETED IN ACCORDANCE WITH PRIOR AGREEMENT, IS APPROVED.

ENV
OR 5-19-88

Blanket Bond

Engineer W.F. White

Phone (805) 322-4031

WFW/ps 48

M. G. MEFFERD, State Oil and Gas Supervisor

By _____
E. A. WELGE, Deputy Supervisor

A copy of this permit and the proposal must be posted at the well site prior to commencing operations.

Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended.

Abd dry hole

FORM OG108 (7/80)

STATE OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

RECEIVED
JAN 05 1988
DIVISION OF OIL & GAS
BAKERSFIELD

Notice of Intention to Abandon Well

This notice must be given at least five days before work is to begin.

FOR DIVISION USE ONLY			
CARDS	BOND	FORMS	
		OGD114	OGD121
	Bl	88-1	

DIVISION OF OIL AND GAS

In compliance with Section 3229, Division 3, Public Resources Code, notice is hereby given that it is our intention to abandon well Rosenberger #1, API No. 029-81541,

Sec. 5, T. 26S, R. 25E, MD B. & M., Field, Kern County.

commencing work on December 7, 1987.

The present condition of the well is:

1. Total depth 5000'

2. Complete casing record, including plugs and perforations

13-3/8" - 50'
9-5/8" - 704'

3. Last produced N/A
(Date) (Oil, B/D) (Gas, Mcf/D) (Water, B/D)

or

4. Last injected N/A
(Date) (Water, B/D) (Gas, Mcf/D) (Surface pressure)

Additional data for dry hole (show depths):

5. Oil or gas shows

6. Stratigraphic markers

Top of first Mya 2410'
Top of Etchegion 3595-

7. Formation and age at total depth
Etchegion

8. Base of fresh water sands 1970'

The proposed work is as follows:

Plug #1 (show) = 3850'-3510'
Plug #2 (BFW) = 2070'-1870'
Plug #3 (shoe) = 754' - 654'
Plug #4 (suf) = 30' - 5'

Have verbal approval from Joe Perrick on 12/5/87 at 5:00 p.m.

It is understood that if changes in this plan become necessary, we are to notify you immediately.

Address 4550 California Avenue (Street)

Bakersfield (City) CA (State) 93309 (Zip)

Telephone Number (805) 321-4060 (Area Code) (Number)

ARCO Oil and Gas Company a Division of Atlantic Richfield Co. (Name of Operator)

By Kwang U. Park, Dist. Drlg. Superintendent (Print Name)

Kwang U Park (Signature) 12/29/87 (Date)

RCS

Form 136A

MEMORANDUM OF TELEPHONE OR PERSONAL CONVERSATION
(Proposed Well Operations)

Operator ARCO Oil & Gas Co. Well No. "Rosenberger" 1

Field Kern County Sec. 5 T. 26S R. 25E MD B&M

(personal) A ~~telephone~~ conversation was held, concerning above well, with Mr. Marc Kamerling for above operator Dec. 5 19 87, at 5:00 P M.

Details of the conversation were as follows:

Total depth 5000' Plugs —

Casing record 13 3/8 com 50'; 9 5/8" com 704.

~~Oil~~ or (gas showings) see mud log.

Results of tests Top of First Mya 2410'. Top of Etchegoin 3595'.

Stratigraphic markers Top of First Mya 2410'; Top of Etchegoin 3595'.

Geologic age at bottom Etchegoin Base of fresh water ≈ 1970'

Operator proposes the following work:

Plug # 1 (show) = 3850' – 3510'; D.O.G. will witness tag.

Plug # 2 (BFW) = 2070' – 1870'; D.O.G. will witness tag.

Plug # 3 (shoe) = 754' – 654'; D.O.G. will witness placing of necessary volume plus 50% excess

Plug # 4 (srf) = 30' – 5' including annulus; D.O.G. will witness hardened plug.

Additional requirements outlined:

Test of W.S.O. to be witnessed by D.O.G. at _____ By operator at _____

Plugs to be located by D.O.G. at see above By operator at _____

Notice to be filed immediately (✓) Yes ( ) Not necessary Intention to Abandon.

Other data _____

(Signed) Joseph L Penick

Title EMRE

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

No. T 487-892

DIVISION OF OIL AND GAS

Report on Operations

Kwang U. Park
ARCO OIL & GAS CO.
P. O. Box 147
Bakersfield, CA 93302

Bakersfield, Calif.
December 15, 1987

Your operations at well "Rosenberger" 1, API No. 029-81541,
Sec 5, T 26S R 25E, M.D. B.& M. --, Field, in Kern County,
were witnessed on 11/29/87. Richard Rose, representative of
the supervisor, was present from 0530 to 1500. There were also present
Bill Helms, Tool Pusher & Bob Kilpatrick, Co. consultant.
Present condition of well: 13 3/8" cement.50'; 9 5/8" cement.704'. TD 706'. Plugged with cement 625'-704'.

The operations were performed for the purpose of testing the blowout prevention equipment and installation.

DECISION: THE BLOWOUT PREVENTION EQUIPMENT AND ITS INSTALLATION ON THE 9 5/8" CASING ARE APPROVED.

Deficiencies noted & corrected:

1. Leaks in Kill Line.
2. Leaks in hydraulic lines.
3. Leak in choke line.
4. Leaks in accumulator pump seals.
5. Leak in API Ring.

RR:jk

M. G. Mefferd, State Oil & Gas Supervisor

By: E. A. Welge /bm

E. A. Welge, Deputy Supervisor

OG109 (9/83/GSR1/15M)

T 487-892

DIVISION OF OIL AND GAS
BLOWOUT PREVENTION EQUIPMENT MEMO

Operator Arco O&G Well "Rosenberger" 1 Field Kern County Kern

VISITS:	Date	Engineer	Time		Operator's Rep.	Title
1st	11-29-87	R. Rose	0530 to 1500		Bill Helms	Toolpusher
2nd			to		Bob Kilpatrick	Co-man Consultant

Casing record of well: 13 3/8" cem 50'; 9 5/8" cem. 704'. T.D. 706';
Plugged w/cem 625'-704'.

OPERATION: Testing (inspecting) the blowout prevention equipment and installation.
DECISION: The blowout prevention equipment and its installation on the 9 5/8 "casing are approved.

REQUIRED BOPE CLASS: III 2MB

Proposed Well Opns: Drilling MPSP: 2000 psi
Hole size: 12 1/4 " fr. 50 ' to 701 ', 8 1/2 " to TD ' & " to '

CASING RECORD (BOPE ANCHOR STRING ONLY)					Cement Details	Top of Cement	
Size	Weight(s)	Grade(s)	Shoe at	CP at		Casing	Annulus
9 5/8	36 47	L-80 K-55	704	—	462 cf Class "G" w/3% $CaCl_2$	625	Return

BOP STACK							a	b	a/b	TEST DATA			
API Symb.	Ram Sz.	Mfr.	Model or Type	Size (in.)	Press. Rtg.	Date Last Overhaul	Gal. to Close	Rec.Time (Min.)	Calc. GPM Output	psi Drop to Close	Secs. to Close	Test Date	Test Press.
Ap	-	Hydril	Annular	11	1500	/	/	/	/	/	/	11-29	1400
Rs	4	Shaffer	Pipe	4	2000							✓	1750
Rd	-	✓	CSO	-	2000							✓	1400

ACTUATING SYSTEM

Accum. Unit(s) Wkg. Press. 1650 psi *Tests run from drillers remote station
Total Rated Pump Output — gpm *Test plug inserted for test
Distance From Well Bore 50 ft.

	Mfr.	Accum. Cap.	Precharge
1	Hydril	80 gal.	550 psi
2		gal.	psi

CONTROL STATIONS	Elec.	Hyd.
✓ Manif. at accum. unit		✓
✓ Remote at Drlr's. stn.	✓	
Other:		

EMERG. BACKUP SYST.	Press.	Wkg. Fl.
3 N2 Cyl No: Type:	1 1825	10 gal.
Other:	2 2150	10 gal.
	3 2300	10 gal.
	4	gal.
	5	gal.
	6	gal.

AUXILIARY EQUIPMENT

		No.	Sz. (in.)	Rated Press.	Weld	Flan.	Thrd.	
✓	Fill-Up Line							
✓	Kill Line		2	2M	✓	✓	✓	1750
✓	Control Valve(s)	2		✓		✓	✓	✓
✓	Check Valve(s)	1		✓			✓	1600
✓	Auxil. Pump Connec.			✓			✓	✓
✓	Choke Line		3	✓	✓	✓	✓	✓
✓	Control Valve(s)	9		✓	✓	✓	✓	✓
✓	Pressure Gauge OK						✓	
✓	Adjustable Choke(s)	1	<2	✓		✓	✓	✓
✓	Bleed Line				✓	✓	✓	
✓	Upper Kelly Cock							1500
✓	Lower Kelly Cock		4	✓				1600
✓	Standpipe Valve							✓
✓	Standpipe Pressure Ga. OK							
✓	Pipe Safety Valve		4	✓				1750
✓	Internal Preventer		4	✓				—

HOLE FLUID MONITORING EQUIPMENT

	Alarm Aud.	Alarm Vis.	Class
Calibrated Mud Pit			A
✓ Pit Level Indicator	✓	✓	B
✓ Pump Stroke Counter	✓	✓	B
✓ Pit Level Recorder	✓	✓	C
✓ Flow Sensor	✓	✓	C
Mud Totalizer			C
Calibrated Trip Tank			C
Other:			C

OK R
12/8/87

REMARKS: Totco adjustable choke on Manifold
Deficiencies noted 1 VISIT ; 1) Leaks in Kill line
2) Leaking hydraulic lines to BOP 3) Choke line weld leaks
Deficiencies noted & corrected 2nd VISIT 1) All the above
2) Leaking accum. pump seals + gaskets to be replaced 11/30/87
3) API Ring leaked & repaired 4) Casing tested T/500 psi Will call
Tested adjustable choke to 1750 psi. OK
Precharge tested @ 550 psi OK for 2MB Stack OK

Hole Fluid Type	Weight	Mud ~~Storage~~ Pits
Gel / Benex	8.6	120 bbls

Pumps Oilwell Gardner P102-50 & Emsco D-550 Duplex

Deficiencies noted & corrected;

1) Leaks in Kill line
2) Leaks in hydraulic lines
3) Leak in choke line
4) Leaks in accumulator pump seals
5) Leak in API Ring

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

No. P 487-6062

PERMIT TO CONDUCT WELL OPERATIONS

000 (field code)
00 (area code)
00 (new pool code)
(old pool code)

Kwang U. Park
ARCO OIL & GAS COMPANY
P. O. Box 147
Bakersfield, CA 93302

Bakersfield, California
November 2, 1987

Your proposal to drill well "Rosenberger" 1,
A.P.I. No. 029- 81541, Section 5, T. 26S, R. [redacted]2SE, MD B. & M.,
- field, - area, - pool,
Kern County, dated 10/22/87, received 10/26/87 has been examined in conjunction with records filed in this office.

DECISION: THE PROPOSAL IS APPROVED PROVIDED THAT:

1. Drilling fluid of a quality and in sufficient quantity to control all subsurface conditions in order to prevent blowouts shall be used.
2. Sufficient cement shall be pumped back of the 13 3/8", 9 5/8" & 5 1/2" casings to fill to the surface.
3. The specified blowout prevention equipment, as defined by DOG Manual M07, is considered minimal and shall be installed and maintained in operating condition at all times:
On the 9 5/8" casing, DOG Class III, 2M and hole fluid monitoring equipment B.
4. THIS DIVISION SHALL BE NOTIFIED TO WITNESS a test of the blowout prevention equipment prior to drilling out the shoe of the 9 5/8" casing.
5. Blowout prevention drills shall be held at least every week and the drill posted in the Tour Sheet.
6. No change in the proposed program shall be made without prior approval of this Division.

NOTES:
1. Before flaring or blowing gas, permission must be obtained from this Division.
2. The Division will monitor the monthly production of this well for a period of 6 months, and if anomalous water production is indicated, remedial action will be ordered.
3. Confidential status is granted for two years per Public Resources Code, Section 3234.

Blanket Bond

Engineer David R. Clark

Phone (805) 322-4031

DRC/kr

M. G. MEFFERD, State Oil and Gas Supervisor

By E. A. WELGE, Deputy Supervisor

A copy of this permit and the proposal must be posted at the well site prior to commencing operations.

Records for work done under this permit are due within 60 days after the work has been completed or the operations have been suspended.

OG111 (6/86/DWRR/5M)

RECEIVED

OCT 26 1987

DIVISION OF OIL & GAS
BAKERSFIELD

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION

DIVISION OF OIL AND GAS

Notice of Intention to Drill New Well

R. Scheldy DC

C.E.Q.A. INFORMATION			
EXEMPT ☐ CLASS____	NEG. DEC. ☐ S.C.H. NO.____	E.I.R. ☐ S.C.H. NO.____	DOCUMENT NOT REQUIRED BY LOCAL JURISDICTION ☒
See Reverse Side			

FOR DIVISION USE ONLY					
MAP	MAP BOOK	CARDS	BOND	FORMS 114	FORMS 121
		#	ll	87145 #	#

EOP 10-30-87

In compliance with Section 3203, Division 3, Public Resources Code, notice is hereby given that it is our intention to commence drilling well "Rosenberger" #1, well type Gas, API No. 029-81541 (Assigned by Division)

Sec. 5, T26S, R.25E, ~~SB~~ MD B. & M., Wildcat Field, Kern County.

Legal description of mineral-right lease, consisting of 160 acres, is as follows: (Attach map or plat to scale)

Do mineral and surface leases coincide? Yes ✓ No____. If answer is no, attach legal description of both surface and mineral leases, and map or plat to scale.

Location of well 600 feet S (Direction) along section / ~~property~~ (Cross out one) line and 500 feet E (Direction)

at right angles to said line from the NW corner of section / ~~property~~ (Cross out one) 5 or

Is this a critical well according to the definition on the reverse side of this form? Yes ☐ No ☒

If well is to be directionally drilled, show proposed coordinates (from surface location) at total depth: ____ feet (Direction) and ____ feet (Direction)

Elevation of ground above sea level 299 feet. 309

All depth measurements taken from top of Kelly Brushing (Derrick Floor, Rotary Table, or Kelly Bushing) that is ± 10' feet above ground.

PROPOSED CASING PROGRAM

SIZE OF CASING INCHES API	WEIGHT	GRADE AND TYPE	TOP	BOTTOM	CEMENTING DEPTHS	CALCULATED FILL BEHIND CASING (Linear Feet)
13-3/8"	54.5	H40 PE	0	40	40	40
9-5/8"	36	K-55 STC	0	700	700	700
5-1/2"	17	K-55 LTC	0	5000	5000	5000

(A complete drilling program is preferred and may be submitted in lieu of the above program.)

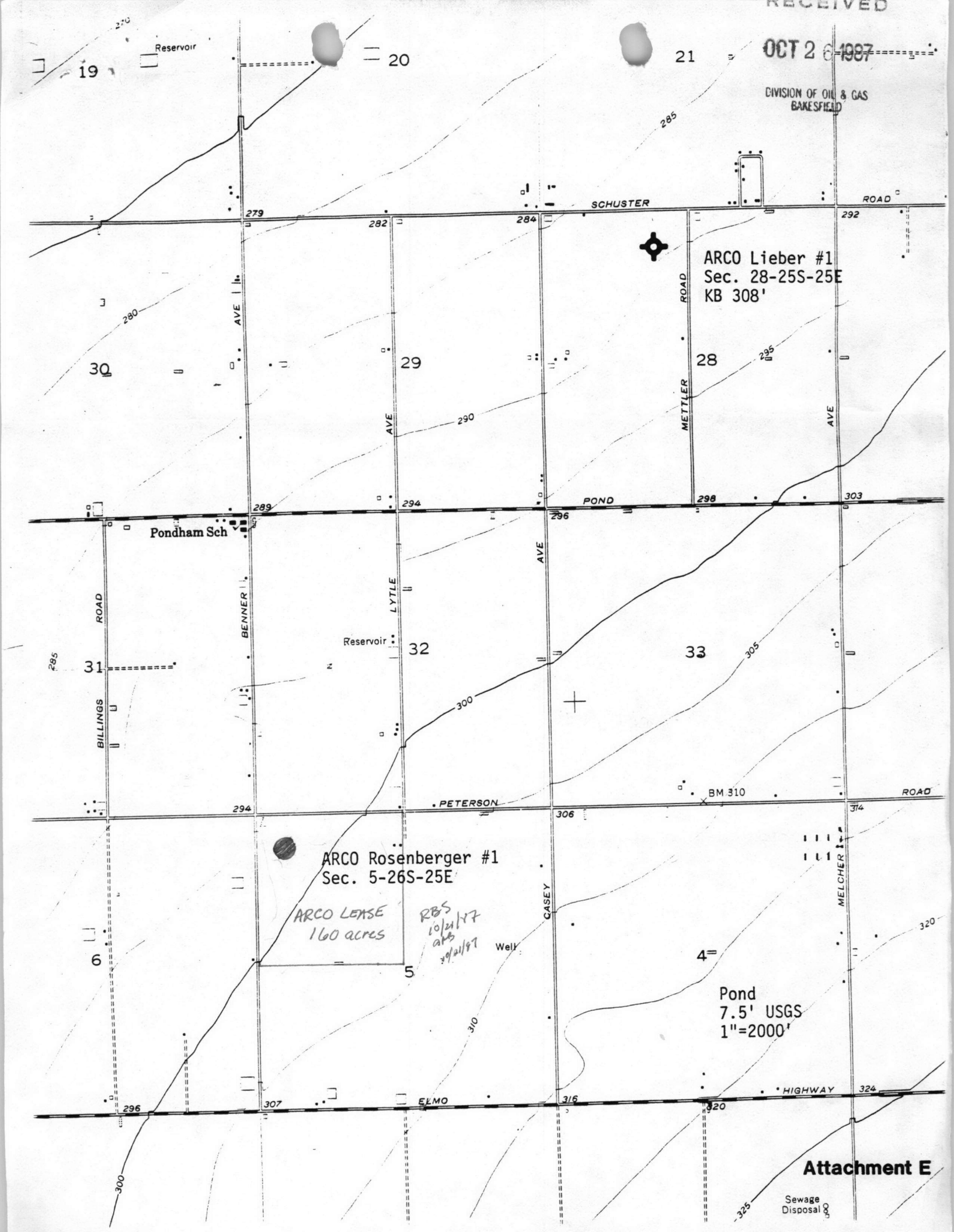
Intended zone(s) of completion Lower Etchegoin (2100 psi) (Name, depth, and expected pressure) Estimated true vertical depth 4699

It is understood that if changes in this plan become necessary we are to notify you immediately.

Name of Operator	Type of Organization (Corporation, Partnership, Individual, etc.)	
ARCO Oil and Gas Company	Corporation	
Address: 4550 California Avenue	City: Bakersfield	Zip Code: 93302
Telephone Number: 321-4060	Name of Person Filing Notice: Kwang U. Park	Signature: Kwang U Park — Date: 10/22/87

This notice and indemnity or cash bond shall be filed, and approval given, before drilling begins. If operations have not commenced within one year of receipt of the notice, this notice will be considered cancelled.

OG105 (10/84/DWRR/5M) RBS



Attachment E